



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/670,608

09/26/2003

Kazuhiko Nagano

Q77304

9899

23373 7590 07/13/2005

SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

SCHILLING, RICHARD L

ART UNIT

PAPER NUMBER

1752

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/670608

Applicant(s)

Nagano et al

Examiner

RL Schilling

Group Art Unit

1752

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on 4-14-05
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-20 is/are pending in the application.
- Of the above claim(s) 1-10 is/are withdrawn from consideration.
- ☐ Claim(s) is/are allowed.
- ☒ Claim(s) 11-20 is/are rejected.
- ☐ Claim(s) is/are objected to.
- ☐ Claim(s) are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☒ The drawing(s) filed on 9-26-03 is/are acceptable objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
  - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

Office Action Summary

Art Unit 1752

1. The requirement for restriction is repeated and made FINAL. The election without traverse is noted.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) The invention was described in (1) an application for patent, published under Section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a

Art Unit 1752

whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-14 and 17-20 are rejected under 35

U.S.C. 102(e) as anticipated by or, in the alternative, under 35

U.S.C. 103(a) as obvious over Murakami et al. Murakami et al.

(see particularly column 2, line 54 - column 3, line 55; column 8, lines 17-46; column 6, line 46 - column 7, line 10; column 4, lines 14-50) disclose stereolithographic methods comprising exposing layers of photocurable compositions containing reversible sol-gel resins, including those set forth in instant claim 17, to cure the layers. The compositions may comprise reinforcing fillers. If Murakami et al. do not anticipate the instant claims, then it would at least be obvious to one skilled in the art to use the disclosed fillers of Murakami in their photocurable compositions for reinforcing.

3. Claims 11-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Murakami et al., Japanese Publication 2001-049129, Ueno et al., Tamura '722 and Tamura et al. '966. Murakami et al. (see particularly column 2, line 54 - column 3, line 55; column 4, lines 14-50; column 6, line 46 - column 7, line 10; column 8, lines 17-46) and the Japanese publication (see the Abstract) disclose

stereolithographic methods comprising exposing layers of photocurable compositions with reversible sol-gel resins, including those of instant claim 17, to cure the layers. Ueno et al. (see particularly column 2, lines 25-62; column 5, lines 3-45; column 3, line 48 - column 4, line 25), Tamura '722 (see particularly column 1, line 56 - column 2, line 67) and Tamura et al. '966 (see particularly column 3, line 10 - column 4, line 7) disclose the use of fillers and concentrations therefor for reinforcing cured products made by stereolithographic methods of exposing layers of photocurable compositions. The fillers provide cured products with greater dimensional strength. Tamura and Tamura et al. also disclose that fillers provide cure products with excellent heat resistance and low shrinkage. Therefore, it would be obvious to one skilled in the art to use the fillers and concentrations therefor in Ueno et al., Tamura and Tamura et al. in the photocurable compositions of Murakami et al. and the Japanese publication for increasing mechanical strength and heat resistance in the cured products of Murakami et al. and the Japanese publication particularly in view of the disclosure in Murakami et al. that their curable compositions with sol-gel resins may comprise fillers for reinforcing.

4. Claims 11-14 and 18-20 are rejected under 35 U.S.C. § 102(e) as being anticipated by Levy. Levy (see particularly

Art Unit 1752

column 2, lines 1-40; column 3, lines 24-67; column 4, lines 19-50; column 15, line 63 - column 16, line 15; Table 4) disclose stereolithographic processes comprising exposing layers of photocurable compositions with sol-gel resin components for better support during exposure. The photocurable compositions include pigments which are fillers.

5. Suzuki et al. '563 and Suzuki et al. '388 are cited of interest in the art as disclosing the use of fillers for photocurable compositions. Hajiwara et al. is cited of interest in the art as disclosing photocurable compositions with gel resins of instant claim 17. Fujihige is cited of interest in the art as disclosing gellable resin compositions as set forth in instant claim 17. Melisaris et al. is cited of interest in the art as disclosing photocurable compositions comprising fillers. Fan et al. is cited of interest in the art as disclosing stereolithographic processes using photohardenable compositions which are coated as liquids and then allowed to increase their viscosity such as by gelling. An Information Disclosure Statement and copies of foreign publications have been received. Unfortunately, the copy of Form 1449 has been lost. Applicants are requested to submit a copy of Form 1449. Any inconvenience caused applicants is regretted.

6. Any inquiry concerning this communication should be

Serial No. 10/670,608

-6-

Art Unit 1752

directed to Mr. Schilling at telephone number (571) 272-1335.

RLSchilling:cdc

July 11, 2005

RICHARD L. SCHILLING  
PRIMARY EXAMINER  
GROUP 1100 1752

